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AUTHOR	Cole, Henry P.; Herlihy, John G.
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ABSTRACT

This document consists of a series of materials designed for use as a workshop to train educational leaders involved in implementing new educational practices and materials in the schools of their region. The materials are prepared as a number of handouts which participants receive in sequence. Participants engage in four major activities, and there are four phases to each activity. Workshop participants are divided into groups of from 5-10 individuals. In the first phase of each activity, participants are provided with information concerning a "hypothetical" curriculum implementation project. This information is typically contained in a handout and is briefly discussed and clarified by the workshop leaders. The second phase of the activity is a problem posed to the participants. The problem requires the participants to act on the information provided to operationalize some aspect of the project. The third phase allows the workshop groups to communicate to one another a summary of the action each group took relative to the problem. A brief discussion follows as the workshop leaders clarify and summarize the main ideas presented by each group. Finally, the fourth phase to each activity is a series of examples of action taken by the workshop leaders in the actual design and implementation of the hypothetical project. During the four activities it becomes clear that project evaluation is integral part of project design, implementation, and monitoring. Handouts and tables are included. (Author/MJM)

GUIDELINES FOR PROJECT DESIGN, IMPLEMENTATION, MONITORING AND EVALUATION

Henry P. Cole
John G. Herlihy

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Eastern Regional Institute for Education
635 James Street
Syracuse, New York

An invited presentation prepared for the National Conference for the Association for Supervision and Curriculum Development, St. Louis, Missouri

FOREWORD

This document consists of a series of materials designed for use as a workshop to train educational leaders involved in implementing new educational practices and materials in the schools of their region. The materials are prepared as a number of handouts which participants receive in sequence. Participants engage in four major activities and there are four phases to each activity. Workshop participants are divided into small groups of from 5-10 individuals.

In the first phase of each activity participants are provided with information concerning a "hypothetical" curriculum implementation project. This information is typically contained in a handout and is briefly discussed and clarified by the workshop leaders. The second phase of the activity is a problem posed to the participants. The problem requires the participants to act on the information provided to operationalize some aspect of the project. The third phase allows the workshop groups to communicate to one another a summary of the action each group took relative to the problem. A brief discussion follows as the workshop leaders clarify and cogently summarize the main ideas presented by each group. Finally, the fourth phase to each activity is a series of examples of action taken by the workshop leaders in the actual design and implementation of the "hypothetical" project. In short, the experiences of the workshop leaders in project design, implementation, monitoring, and evaluation are used as simulation and training experience for workshop participants.

During the four activities it becomes clear that project evaluation is an integral part of project design, implementation, and monitoring. The fact that evaluation activities must begin <u>before</u> the project commences is stressed.

The table beginning on the next page provides an overview to the sequence of activities and materials used in the workshop.

This package is essentially a set of leadership training materials based upon the experiences of the authors in project design, implementation, monitoring and evaluation.

ORGANIZATION OF THE WORKSHOP MATERIALS
AND ACTIVITIES

Phase	Handout	Description of Handout or Activity	Page
		Activity I	
1	1	Introduction to the workshop which explains the origin of the simulation activity in the work of the authors. Information is also provided on the general project goals, design and system.	
2	2	Activity I: Problem. This problem asks the participants to begin operationalizing the project given the information in Handout 1. Participants work in small groups to solve the problem.	9
3	-	Each group summarizes its recommendations for solving the problem. These are synthesized by the workshop leaders.	--
4	3	Examples of how the workshop leaders delineated specific project goals and rationales as a first step to project implementation, monitoring, and evaluation are provided.	10
		Activity II	
1	-	The information provided is the specific project goals and rationales (Handout 3)	10
2	4	Activity II: Problem. Participants are asked to further operationalize the specific project goals; to develop procedures to establish the necessary contact and interaction among the	

Phase	Handout	Description of Handout or Activity	Page
		agencies and individuals to implement the project. Participants continue to work in small groups to complete the task.	
3	-	Each group summarizes its recommendations for operationalizing the specific project goals. These are clarified and summarized by the workshop leaders.	--
4	5	Examples of actual steps taken by the workshop leaders to operationalize specific project goals are provided.	16
		Activity III	
1	6	Information on the Havelock knowledge dissemination and utilization model is provided to the workshop participants. It is suggested that the model is useful in project planning and design.	24
2	7	Activity III: Problem. Participants use the Havelock model to clearly specify the roles and responsibilities of some key agency or individual within the project system (See Handout 1, pages 6 and 8).	31
3	-	Each group of participants summarizes its delineation of roles and responsibilities for an individual or agency. Their recommendations are summarized and clarified by the workshop leaders.	--
4	8	Examples of roles and responsibilities for 3 agencies and/or individuals delineated by the Havelock procedures are provided by the workshop leaders.	33

HANDOUT 1

INTRODUCTION

The series of activities and examples which you are about to experience are based upon the work of Henry Cole and John Herlihy in designing, implementing, monitoring, evaluating, and refining a project which used the installation of an outstanding social studies curriculum as the means for improving aspects of classroom practices at both elementary schools and colleges in a two state region. The curriculum selected as the vehicle for the project activity was Man: A Course of Study developed under the direction of Jerome Bruner and Peter Dow at Education Development Center and now produced and marketed by Curriculum Development Associates. The project was supported by a grant from the National Science Foundation during 1969-70 which provided additional funds for the continuation and expansion of the activities for 1970-71 and 1971-72. Documents which fully explain the nature of the project, its basis in implementation theory and research, its first year accomplishments, and its continuation are listed as references below. The activities and examples provided are intended as general guidelines having utility in establishing the basic framework needed for the design, operation and evaluation of similar projects involving the implementation of new educational methods or materials.

REFERENCES

Cole, H. P. Process education: An emerging rational position. Syracuse, N. Y.: Eastern Regional Institute for Education, 1970.

This document is a 5 Chapter book. Chapters 1, 2, and 3 deal with the basic theory and rationale underlying MACOS and many other process curricula. Chapters 4 and 5 deal with empirical and theoretical knowledge concerning the implementation and dissemination of educational innovations such as MACOS.

Cole, H. P., Andreas, B. G., Archer, N. S. A program to establish preservice and inservice education for the effective installation and dissemination of Man: A course of study. Proposal funded by the National Science Foundation. Syracuse, N. Y.: Eastern Regional Institute for Education, February 1969.

This is the original proposal which was funded for the first project year by NSF. It contains the basic project design elements, activities and procedures.

Cole, H. P., & Herlihy, J. G. Implementation of a process curriculum by the campus team strategy. Report to the National Science Foundation on a 1969-70 Grant awarded for "A program to establish preservice and inservice education for the effective installation and dissemination of Man: A Course of Study." Syracuse, N. Y.: Eastern Regional Institute for Education, February 1971.

This is the final report of the project and its effectiveness for the first project year (1969-70).

Herlihy, J. G., Cole, H. P., & Herlihy, M. T. The campus team--A change strategy for preservice and inservice education. A paper presented at the 1971 annual meeting of the American Educational Research Association. New York: February 1971.

This is a condensed statement of the objectives, design, and effectiveness of the project during its first year of operation. The paper is based upon the full report to the National Science Foundation.

Herlihy, J. G., Andreas, B. G., & Archer, N. S. A campus-based installation strategy for Man: A course of study. Program Proposal 103. Syracuse, N. Y.: Eastern Regional Institute for Education, 1969.

This is the proposal for the second year of the project which was again funded and is currently in operation under the direction of John Herlihy. It is an extension and refinement of the first project year design, procedures, and activities.

Herlihy, J. G., & Wallace, R. C. Expansion of the campus team Man: A course of study network. Program Proposal 105. Syracuse, N. Y.: Eastern Regional Institute for Education, 1970.

This is the proposal for the third year continuation and expansion of the project. The proposal has been submitted and funded. The third project year will commence in July 1971 under the direction of John Herlihy.

Activity I:

GENERAL GOALS

The primary goals of the project were (1) installation and dissemination of the MACOS curriculum, (2) establishment of pre- and inservice teacher education programs designed to develop competency in the knowledge and skills central to the proper use of MACOS and related process curricula and, (3) study of the installation-dissemination strategy developed for the project. An additional goal was the empirical study of the effect of the MACOS curriculum upon pupil and teacher behavior.

PROJECT DESIGN

The Campus Team

The basic element of the design was the campus team. This is illustrated in Figure 1. The team consisted of a campus school teacher and a college methods course professor from a teacher training college. There were five of these teams from each of five colleges. All members of the campus team were trained for their roles by ERIE in an intensive 5 week workshop. Each campus team was to be responsible for developing and conducting both a pre- and inservice teacher education program designed to acquaint these groups with important theoretical and practical aspects of MACOS and its pedagogy. In addition, the campus team also

served in other capacities including acting as consultants to local schools installing the curriculum and serving as local resource people able to disseminate information to educators and communities in their regions concerning MACOS, its benefits and use.

Extent of the Project System

The extent of the project system established for the implementation and dissemination of the MACOS curriculum is shown in Figure 2. The portion to the left of the vertical double line shows the origin of the curriculum. The portion to the right of the verticle double line shows the implementation, dissemination, and teacher education network established by ERIE project staff. In the diagram each temporary organization of individuals into a social system which is organized to achieve some particular function or objective is represented by a dotted rectangle. Permanent social systems such as school districts, state education departments and teacher colleges are enclosed by solid lines. The function of each social system represented is included in parentheses following the description of the social system. The double ended arrows between the various temporary and permanent social systems represent the linkage patterns by which communication occurred throughout the system toward the implementation of project goals. The number of actual agencies or

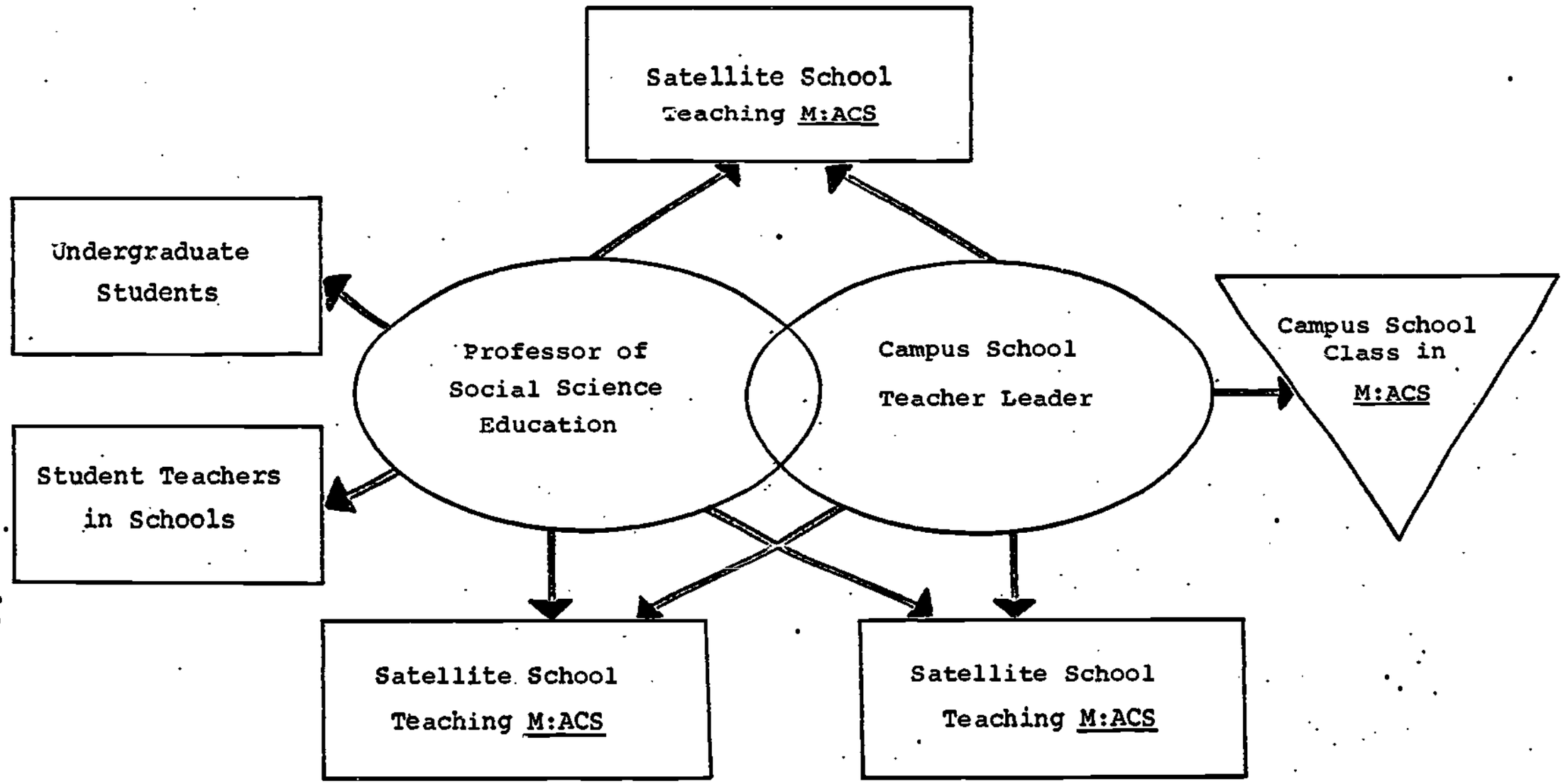
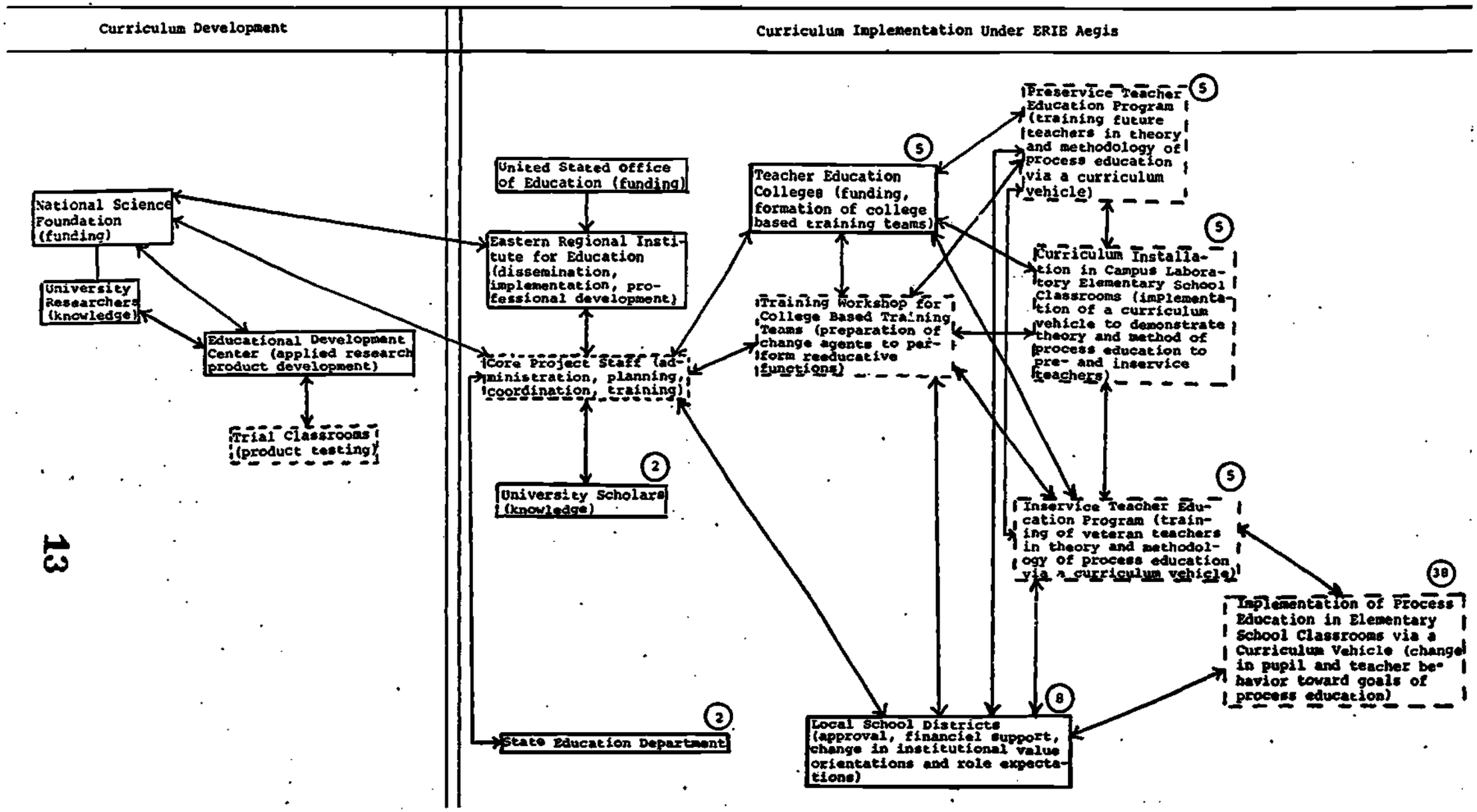


Figure 1. Plan for Inservice Training and Undergraduate Education on Man: A Course of Study to be Replicated 1969-1970 at each Teacher Education Institution and in Satellite Schools.

social systems involved in any particular function is shown in the circle at the right hand corner of each enclosure. Where only one social system was involved no number is shown. A total of 74 permanent and temporary social systems were involved in some aspect of the project during the 1969-70 contract year.

FIGURE 2

AN EXTENDED PROJECT SYSTEM FOR INITIATION OF PROCESS EDUCATION
VIA THE CURRICULUM VEHICLE MACOS



Adapted from Process Education: An Emerging Rational Position by Henry P. Cole. Syracuse, N. Y.: Eastern Regional Institute for Education, November, 1970.

HANDOUT 2

Activity I: Problem

How would you go about operationalizing this project? What procedures and activities are necessary in order to "breathe life" into the conceptualization of the project? Please be specific as to your first step(s).

HANDOUT 3

Activity I: Example A

DELINEATION OF SPECIFIC PROJECT GOALS AND THEIR RATIONALES

There were a number of explicit project goals which were derivative from the general project goals and project design. These specific goals and their rationales are given below.

Goal A: Communication and cooperation between the campus school teacher and the college methods professor in planning and conducting both the preservice and inservice teacher education program.

Rationale: Both members of the campus team have insights, skills, and training opportunities unique to their roles. Cooperation between the campus school teacher and the college methods professor should blend the theoretical education of preservice students with the practical experience made available by the campus school teacher and his classroom. Currently, such cooperation between the campus school staff and professors at teachers colleges in the education of preservice students is atypical. This goal was intended to reverse this pattern.

Goal B: Establishment of an inservice teacher training program cooperatively developed and conducted by the campus team. This training program is to instruct local participating teachers in the theory, design, methodology, and utilization of the MACOS curriculum.

Rationale: MACOS is more than a set of curriculum materials. It is an instructional system which translates theory into an actual classroom design with instructional applications. As such it represents a great instructional resource capable of illustrating in the classroom many commendable educational theories and goals. Such applied theoretic knowledge is vital to reeducating inservice teachers to new perceptions, skills, and competencies.

Goal C: Establishment of a preservice college course designed to instruct at least 60 future teachers each semester in the basic theory, design and methodology of the MACOS curriculum.

Rationale: The preservice program should become an appropriate and worthwhile part of a student's course of study. It should not be viewed as some extra or temporary project in which college students are involved. It is anticipated that the college faculty and administration would come to recognize and value the project as a means by which theoretic knowledge could be taught through multiple situational teaching experiences.

Goal D: Use of the campus school classroom (or specified other local classroom(s) as a laboratory where the professor and preservice students could actually apply the philosophy, theory, and design underlying the MACOS curriculum.

Rationale: It is imperative that theoretic knowledge be imparted to future teachers. However, it has been well established that theoretic knowledge learned verbally does not generally effect changes in teaching behavior. Both theoretic knowledge and clinical experience are needed to demonstrate how theory can improve performance in a classroom.

Goal E: Interaction between preservice and inservice teachers about the design, theory, utilization and problems of the MACOS curriculum.

Rationale: Experienced teachers have much practical knowledge about instructional management and child behavior that is useful to beginning teachers. Beginning teachers have fresh insights, values and ideals important to the instruction of children which have sometimes been overlooked by experienced teachers. Each group can have beneficial effects upon the other.

Goal F: Establishment of a regular inservice training program for participating teachers from local schools. These 20 biweekly sessions are cooperatively planned and conducted by the campus team. The

team provides additional support and consulting services to local teachers when requested at times other than the regularly scheduled training sessions. Advising teachers on planning lessons and activities, on managing MACOS materials, and on grouping students for learning projects is a year long activity.

Rationale: When innovative curricula are implemented, it is customary to arrange for a brief summer workshop to instruct teachers in the management and use of the curriculum. Many problems arise later in the year when teachers actually begin using the curriculum. By this time the change agent is usually unavailable. A teacher education program throughout the first year of a project is necessary to insure proper curriculum implementation. The ERIE/MACOS project is concerned not only with the implementation of the curriculum as a program in itself, but also with using the curriculum as a vehicle to change classroom instruction toward teacher and pupil behavior consistent with process education. Regular inservice sessions throughout the year help teachers generalize the knowledge and experience encountered in MACOS to other areas of the school curriculum.

Goal G: Participating inservice teachers must agree to have their behavior and their pupils' behavior observed and to cooperate in testing pupils and completing questionnaires to determine the effect of the curriculum and the project. In addition, they are to report on each lesson taught on forms provided for them.

Rationale: Data on the effectiveness of the MACOS curriculum as a vehicle for changing pupil and teacher behavior is important to project continuation and improvement. Teachers were asked to participate in the necessary data collection in order to improve and refine the curriculum. It is reasoned that when teachers feel they are contributing to the further refinement of a project or curriculum, and they receive the results of the data studies, they are more likely to actively participate in the necessary evaluation activities.

Goal H: Participating local inservice teachers are to be compensated in some manner for their extensive involvement in the inservice training program. Compensation is to be in the form of (1) money paid to the teachers, (2) college credit for inservice participation, or (3) local salary schedule credit.

Rationale: The program is designed to increase the competence of teachers. They are in addition to their normal daily activity required to spend much time studying and preparing to teach the program and participating in data collection. This contribution should be formally recognized by the school district. The additional training should be credited as legitimate professional development.

Goal I: Participating school districts are to substantially contribute to the cost of implementing the MACOS program.

Rationale: ERIE had learned, by prior experience in implementing curricula that if an outside agency bore total financial support for the curriculum installation, schools did not demonstrate the necessary commitment and involvement to carry out project plans and activities. One goal of the project is for each participating school district and college to contribute financially to the implementation of the MACOS curriculum by purchasing the necessary materials.

Goal K: Pupils using the MACOS curriculum should develop competency in the content of the curriculum.

Rationale: The content of the MACOS curriculum is central to emerging knowledge in anthropology, psychology and other social behavioral sciences. This is in accord with Jerome Bruner's view of the importance of structuring the content of curricula around "knowledge" which is in the process of being formulated by contemporary scholars. The acquisition of such information by pupils is important to their ability to understand current and future explorations in

the social and biological sciences.

Goal L: Pupils should learn to seek active involvement, pupils should become active learners and inquirers, and should begin to develop new ideas, attitudes, and roles in the classroom. These new behaviors should reflect an active quest to learn, structure knowledge, and make meaning.

Rationale: Children are active seekers of knowledge. They create, explore, actively structure, and manipulate environmental variables. Work and play are usually directed toward such ends. However, the school often stifles this active quest. Learning in school frequently results in passively following the teacher's or textbook's initiative. Learning roles which allow pupils to be active seekers, questioners, inquirers, and meaning makers are frequently inhibited by the structure of learning materials, the school and the classroom, and the expectations of administrators and teachers for pupil behavior. By the proper implementation of the MACOS curriculum, inservice teachers are able to encourage pupils to become more spontaneous, active, meaningfully involved, motivated and curious in their classroom learning activity.

HANDOUT 4

Activity II: Problem

Given the specific goals and rationales how would you establish the necessary contact and interaction among prospective agencies and individuals to be involved in the project (start up strategies). What are some of the important procedures and activities you would undertake to insure successful project implementation? (Maintenance activities)

HANDOUT 5

Activity II: Example A

Specification of Major Roles and Responsibilities as Conditions for Participation

CONDITIONS AND REQUIREMENTS FOR PARTICIPATION IN THE MAN: A COURSE OF STUDY PROGRAM

I. Conditions for the Selection of Campus-Based Units

II. College and Satellite School Selection Procedure

III. Conditions for the Selection of Local Satellite Schools by Colleges

These conditions and requirements are a slight refinement of those used in the two previous project years. They have proven to be very effective in project implementation and evaluation.

Part I: Conditions for the Selection of Campus-Based Units

After studying this and other enclosures, if you wish to be considered for participation, please send your letter of intent to: Dr. John G. Herlihy, Eastern Regional Institute for Education, 635 James Street, Syracuse, New York 13203.

Each site will be expected to select a professor of education and a campus school teacher to work as a team from July 1, 1971 - June 30, 1972.

The professor must be teaching at least two sections of undergraduate courses which can be utilized to promote the philosophy and methodology underlying the Man: A Course of Study program. If the professor cannot modify the content of two of his courses, other definite provisions must be made for the regular and meaningful involvement of approximately 60 preservice teachers per semester with the underlying philosophy and methodology of the Man: A Course of Study program. This curriculum can serve as an effective vehicle for illustrating the application of the theories of Bruner and others to the instruction of children.

The teacher must be teaching at least one Grade 5 or Grade 6 class in the campus or collaborative school. During the 1971-72 academic year, the campus school teacher will be expected to teach the Man: A Course of Study course to the class on a fulltime basis (45 minutes per day, five days per week for the full school year).

Each college site will be expected to secure ten Grade 5 or Grade 6 classrooms from local schools agreeing to:

1. Have their school district purchase the materials for Man: A Course of Study.

2. Share the films for Man: A Course of Study. (All classrooms should be in the same building or in close geographical proximity in order to effectively share the films and special projector.)

3. Attend the three-day full orientation session at the campus site at their local school district's expense. The principal should also be invited to attend.

4. Attend 20 biweekly inservice training sessions at the campus site during the period from September 1971 - June 1972.

The professor and campus teacher team from each campus site must agree to:

1. Jointly attend the full four-week summer workshop from August 2 - August 27, 1971.

2. Cooperatively conduct a three-day orientation session at their campus for the participating teachers and administrators from the local satellite schools.

3. Cooperatively develop and conduct a preservice teacher education program in the underlying philosophy and methodology of the Man: A Course of Study program for at least two sections of undergraduate courses. The courses can be in any of several content areas common to college programs (i.e. education, methods, curriculum, psychology, anthropology). If no direct provision can be made for the study of Man: A Course of Study in a particular college course, definite provision for intensive and regular study of the program materials, philosophy, and methodology must be provided for a significant number of preservice teachers (60 or more students). It is also expected that students will be asked to purchase a sample set of the Man: A Course of Study materials to serve as part of their texts for their course. A sample set of materials costs $9 and includes all the teacher's guides and one copy of each student booklet. One sample set could be effectively shared among three college students. The campus school teacher's classroom will be expected to serve as a laboratory where preservice teachers and the professor will have the opportunity to observe and participate in the actual on-going use for Man: A Course of Study.

4. Cooperatively develop and conduct a biweekly inservice teacher education program for participating teachers from local satellite schools.

5. Cooperatively provide for interaction to occur between preservice students at the college and inservice teachers from the local participating satellite schools. Such interaction could involve the placement of college students participating in the college course as student teachers to local participating teachers in the satellite schools. Other provisions for regular interaction between the preservice and inservice teachers are also expected to be developed.

6. Assist in the evaluation of the program by allowing individuals from ERIE or ERIE sponsored agencies to periodically administer tests and questionnaires to campus school elementary students, preservice education students, and inservice teachers from the local satellite schools.

7. Collaboratively prepare a detailed report during the project year describing the development, content, method, and implementation of the preservice and inservice program. It is expected that this report will be incorporated in a technical report of the project.

Final Selection of Five Campus-Based Units

The final selection of campus-based units will occur on or before April 1, 1971, and will be based upon:

1. Receipt of a letter of intent by March 1, 1971, from the college agreeing to the above conditions.

2. ERIE's judgment of the capability of the college to secure the necessary satellite school classrooms.

Part II. College and Satellite School Selection Procedure

1. Letter of intent signed by:

   a. College personnel

      (1) division director
      (2) department chairman
      (3) participating professor

   b. Campus School personnel

      (1) campus school principal
      (2) campus school teacher

2. Statement by college official of availability of personnel and willingness to underwrite the cost of the movie package

3. Statement by college official of agreement to conditions and requirements

4. Meeting between the five college personnel (a and b above) and the program director to:

   a. Review Conditions and Requirements for college participation

   b. Demonstrate completeness of arrangements at college

   c. Show college commitment and support of the program goals

5. Demonstrable support of interested satellite schools by a Letter of Intent which will include:

   a. Estimated number of classes and teachers

   b. Method of compensation of teachers

   c. Knowledge and readiness to meet the financial commitment involved

Part III: Conditions for Selection of Local Satellite Schools by Colleges

1. Satellite schools must formally agree to share in the financial support of the installation of Man: A Course of Study.

2. Principals of the participating satellite schools must be:

   a. Informed of the nature and content of Man: A Course of Study

   b. Generally supportive of the teacher training and installation effort

   c. Invited to attend the three-day fall orientation session as a participant

   d. Able and willing to facilitate the conditions which must be met by the participating teachers

c. Be familiar with the conditions and requirements previously stated

3. Teachers of the participating satellite schools must be:

   a. Generally supportive of the Man: A Course of Study curriculum

   b. Willing to attend 20 biweekly inservice training sessions (2-3 hours per session) during the academic year (The sessions will most likely be conducted at the local college campus.)

   c. Willing to work with preservice student teachers in relation to Man: A Course of Study in their own classrooms

   d. Willing to work with preservice teachers in other ways during the academic year (e.g. assistance in the training of preservice teachers during the biweekly inservice training periods, etc.)

   e. Receptive to having observers from ERIE, EDC, NSF, CDA in their classrooms to observe them and their students for purposes of learning more about the program

   f. Willing to have their pupils' behavior evaluated by individual examinations, group tests, and classroom observation periodically throughout the year

   g. Willing to have their own teaching behavior observed and measured for purposes of learning more about effective methodology

Activity II: Example B

ESTABLISHING A TIMETABLE FOR MAJOR PROJECT ACTIVITY

The timetable below is the one actually prepared for key activities in the third project year. It has been learned that it is important to prepare a sequence of schedule of major project activities prior to project implementation in order that all parties and agencies involved can plan accordingly.

Timetable

October 15, 1970	Submission of proposal by ERIE to NSF
December 1, 1970	Information letter from ERIE to state education departments and colleges soliciting interest in program
January 5, 1971	Letter from ERIE inviting college representatives to attend meeting to explain and discuss program
January 15, 1971	Notification of grant approval to ERIE by NSF
February 4, 1971	Meetings, arranged by ERIE, with college respondents to explain proposal and conditions for participation
February 15, 1971	Selection of site for summer workshop
March 1, 1971	Review and study of applications according to criteria and College and Satellite School Selection Procedures

April 1, 1971	Written notification by ERIE to selected applicants chosen for participation
April 15, 1971	Receipt by ERIE of signed letters of intent to participate from selected applicants. (This letter must be signed by college and public school representatives chosen by colleges; it must include designation of participants and acknowledgement of conditions.)
April 20, 1971	Initial plans for the design of summer workshop completed with ERIE professional development personnel
May 3, 1971	Meeting of program director, network consultants, and selected consultants from ERIE to plan summer workshop
May 17, 1971	Receipt by ERIE of all requisition forms from college centers and satellite schools
May 26, 1971	Staff and consultants plan detailed outline of summer workshop
August 2-27, 1971	Four-week workshop for campus teams
Late August, 1971	Campus teams conduct three-day orientation program for satellite teachers at each college center
September 1971 - June, 1972	Campus teams conduct eighteen biweekly inservice sessions for satellite teachers at each college center
	Campus teams conduct preservice program for college students

HANDOUT 6

THE HAVELOCK MODEL AS A BASIS FOR PROJECT IMPLEMENTATION[1]

Havelock has developed a very comprehensive and master model for the dissemination and utilization of new knowledge arising from innovations in any field of human endeavor. The term knowledge is used very broadly in the Havelock model. It encompasses the innovative products of creative individuals and groups which include new theories, ideas, beliefs, feelings, values, technologies, skills, procedures and things. Of course, new educational technologies, products, materials and procedures represent knowledge which having originated from research and development activities can be disseminated to and utilized by those users of such products which include schools, teachers, and pupils.

The basic and most important characteristic of the Havelock model is the conceptualization of knowledge dissemination as both a system for information flow among groups and agencies and as a process of information transfer among individuals who link those agencies which comprise the system. These two basic functions are described quite clearly in a paper by Lippitt and Havelock (1968). In the first part of the paper Lippitt describes the process of transfer of knowledge among the individuals within the subsystems which comprise the total system. In the second part of the paper Havelock describes the external characteristics of systems within which the knowledge transfer process described by Lippitt needs to occur if the innovation is to be widely implemented into practice.

The Knowledge Tranfer Process

Havelock characterizes the process aspects of the model in a series of questions. These are essentially; who transfers what knowledge to whom by what channel (means, media) to what effect for what purpose (1969, p. 1:10). The knowledge transfer process aspects of the model are further categorized as indicated in Figure 1.

The who part of the model is conceptualized as a resource system which may consist of theoriticians, basic and applied researchers, and developers who are the creators of the new knowledge. The resource system may also include

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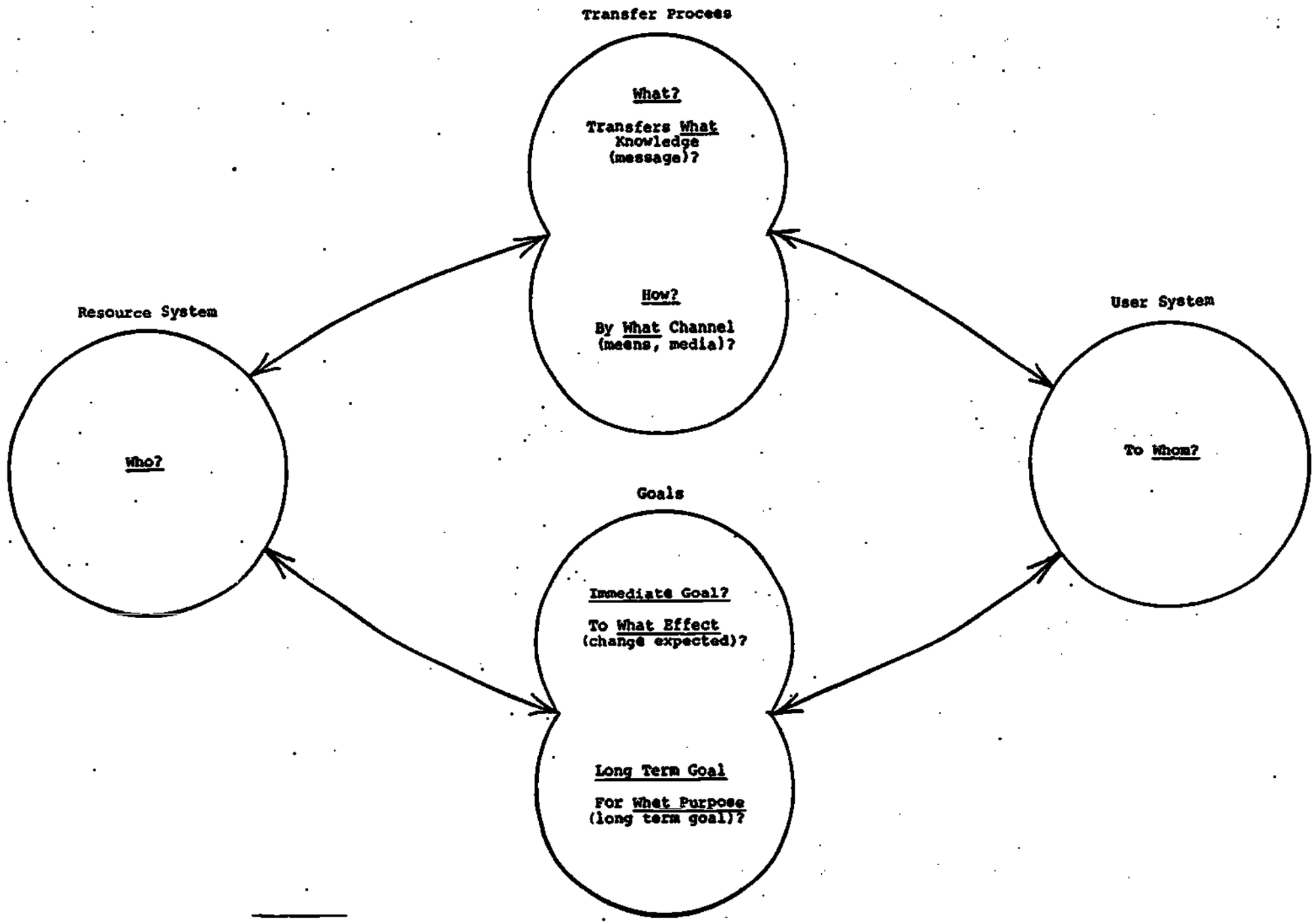
[1]Abstracted from Chapter 4 of Process Education: An Emerging Rational Position which provides an extensive treatment of the Havelock model, its origin, properties, and utility for project design toward implementing and disseminating new educational practices and materials.

FIGURE 1
BASIC CONCEPTS OF HAVELOCK'S KNOWLEDGE TRANSFER PROCESS*



*The basic components and relationships of the Havelock model are presented in great verbal detail and in numeroue schematics in his Planning for Innovation Through Dissemination and Utilization of Knowledge, published by the Institute for Social Research, The University of Michigan, Ann Arbor, Michigan. The above schematic and accompanying verbal explanation in the text represent this author's attempt to condense the Havelock model to a conceptualization of its basic properties.

agencies or individuals skilled in gathering such resources together for purposes of applying the knowledge in the user system, and such individuals are definitely part of the transfer process. Examples of resource systems in education are curriculum development projects and agencies who involve scholars, theoriticians, behavioral scientists, experienced teachers, and pupils in the application of basic and applied research to produce new programs designed to improve some area of learning such as reading, mathematics or scientific inquiry.

The whom part of the model is conceptualized as the users, the agencies and individuals who implement into practice the new knowledge which has been developed. Examples of users in education are school districts, administrators, classrooms, teachers and pupils who put into practice the educational innovations developed by educational resource systems. Other users might be teacher colleges and universities who use new training programs and procedures for teachers. A third user system might be a commercial vendor who mass produces an innovative educational program or training package for wide-scale dissemination.

The transfer process or dissemination of the new knowledge is conceptualized as a message which is transferred from the resource system to the user system by some means. The transfer process also serves to send messages from the user system to the resource system about its needs for new knowledge and innovations which can be identified or developed by the resource system to meet those needs. Messages are conceptualized as a wide variety of knowledges. They originate as outputs from both resource and client systems. Typical messages from resource systems concern new basic knowledge and techniques for applying that knowledge to improve practice. Examples of resource system messages in education might be basic research which produces new knowledge about the conditions governing inquiry learning, applied research which develops techniques and materials to facilitate inquiry, learning, and curriculum development efforts which produce new programs for actual use in inquiry development in schools. Examples of typical messages originating from user systems would be evidence that inquiry training programs are needed and wanted by schools and teachers, and that prototype inquiry development programs developed by resource systems need certain alterations to make them more manageable, effective and adaptable.

The channel for transfer of knowledge concerns the media and means of communication. This can be and often is individuals who serve a linkage function. They tell and show

both the resource and user systems things each must know about the other. The medium of transmission may also be in the form of an exemplary curriculum vehicle which demonstrates how to implement new educational theory, technology, or practice. Other media may be books or audio-visual presentations which contain similar information. These are common means or channels by which resource systems transfer messages to user systems. Memos, reports, discussions with change agent, consultants and questionnaires originated or completed by members of the user system are means commonly used to transfer messages from the user system back to the resource system. In actual operation the means employed to transfer messages between resource and user systems involves a wide variety of these devices.

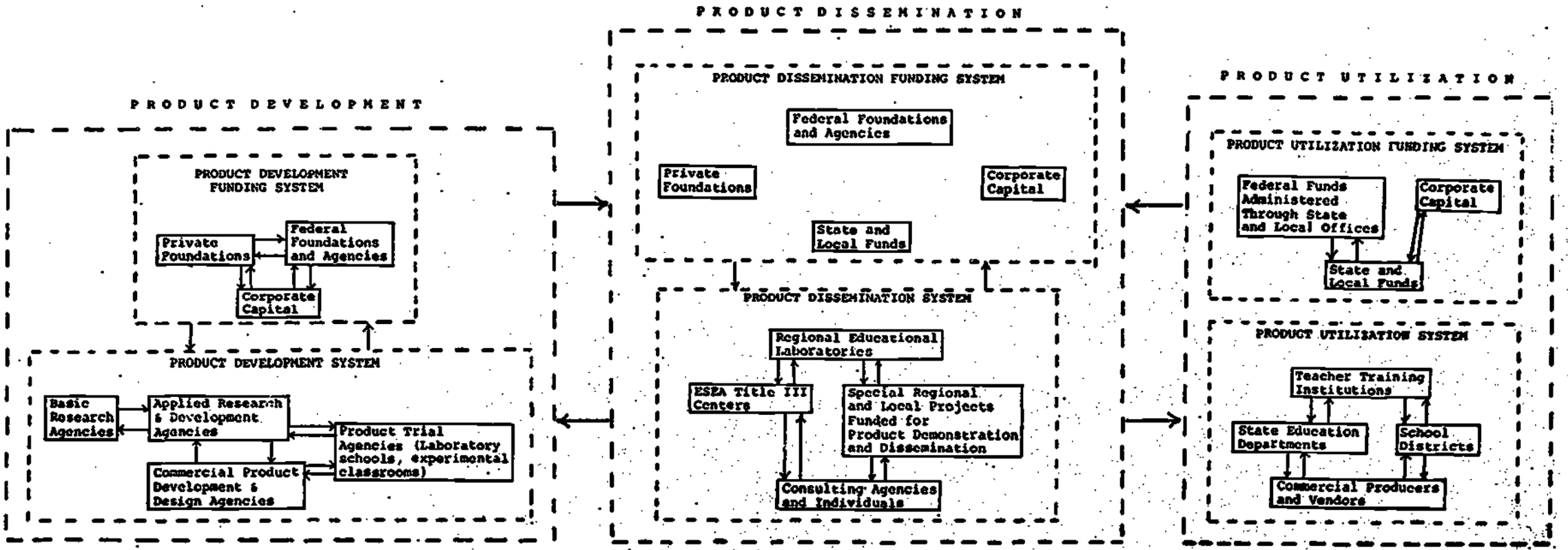
The "to what effect" and for "what purpose" aspects of the Havelock model are goals which are established by both the resource system and the client. The "to what effect" question may be considered to represent more immediate changes in the behavior of individuals in user or resource systems. For example, a resource system may wish to implement a new curriculum to product behavior changes in the question asking strategies of pupils and teachers. This would be the "to what effect" short term goal. The longer goal implied in "for what purpose" might be to improve the inquiry behavior of pupils and teachers. Likewise, schools as user systems might have as immediate goals improving the reading skills of pupils and the competency of teachers for instructing those reading skills. They may communicate this need to resource systems with the short-term expectation ("to what effect") that additional reading materials for pupils and training programs for teachers will be developed. The long-term goal would, however, not be the development of more materials but the general improvement of teacher competence in teaching reading and fluent self-initiated reading activity among pupils.

The Knowledge Dissemination System

The knowledge transfer process of the Havelock model represented in Figure 1 describes the internal operation and activity of knowledge flow within the system. An example of the system conceptualization is given in Figure 2. It shows the general variety and number of organizations which might be involved in an extended temporary system concerned with the development, dissemination and utilization of a particular educational innovation which could be a product such as a new mathematics curriculum for the primary grades.

FIGURE 2

AN REPRESENTATIVE KNOWLEDGE DISSEMINATION SYSTEM



In the Havelock model the member organizations within an extended system such as the one presented in Figure 2 are linked by the knowledge transfer process shown in Figure 1. Subsystems within and between the member organizations are also linked by the same process, as are any two individuals whose roles call for them to communicate between the user system at any point in the flow of knowledge.

Such a complex extended temporary system is, however, made up of many subsystems all of which have resource persons, user persons, message to transfer, procedures to use for message transfer, and long- and short-term goals to be attained. Therefore, the Havelock model applies not only at the macro extended system level, but at the intermediate subsystem level as well. Thus within each of the agencies in the extended system described above; whether they be user systems, resource systems or change agencies; there are individuals or groups which represent sub-resource systems and sub-user systems. There are also individuals who have linking roles between major agencies in the extended system and between subsystems within the member agencies of the extended social system. The Havelock model also applies to relationships among such sub-groups.

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HANDOUT 7

Activity III: Problem

Select one relationship which links individuals and/or agencies in the project system. Use Figure 1 and 2 in the first handout. Using the information you have about the project and the Havelock six questions clearly specify the roles and responsibilities which link these agencies or individuals. Who is the knowledge resource; the knowledge user? What knowledge is to be transferred? How? For what immediate effect? Toward what long-term goal? Use the attached worksheet.

Do you think the six Havelock questions are useful for planning for project implementation, management, and evaluation? In what way?

Activity III

Knowledge Resource (Agency or Individual)

Knowledge User (Agency or Individual)

Knowledge to be transferred from Resource to User

Method, Channel, Means for Knowledge Transfer

Anticipated immediate effect of the knowledge transfer process

Long-term goal sought by the knowledge transfer process

HANDOUT 8

Activity III: Example A

Knowledge Resource (Agency or Individual)

The campus school teacher

Knowledge User (Agency or Individual)

Preservice teachers in methods courses at the college

Knowledge to be transferred from Resource to User:

Practical experience in using the MACOS curriculum to instruct elementary school pupils: The knowledge to be transferred concerns how to use the teacher guides, group pupils for learning activities, arrange and manage materials and equipment necessary to particular MACOS lessons, stimulate and guide pupil discussion and independent learning activity, relate the curriculum content to current events in the social and physical world of the pupil, and relate MACOS to reading, language arts and other areas of the school curriculum.

Method, Channel, Means for Knowledge Transfer:

Active participation of preservice teachers in the elementary classrooms of the campus school teacher. Means for participation include observation of the classroom activity, assisting the teacher in instructing groups of pupils in portions of lessons and activities, direct teaching and interaction with pupils using MACOS, assisting the teacher in planning and preparation for pupil learning activity and helping evaluate pupil progress.

Anticipated Immediate Effect of the Knowledge Transfer Process

Preservice teachers who are skilled in the practical aspects of proper utilization of the MACOS curriculum and its methodology.

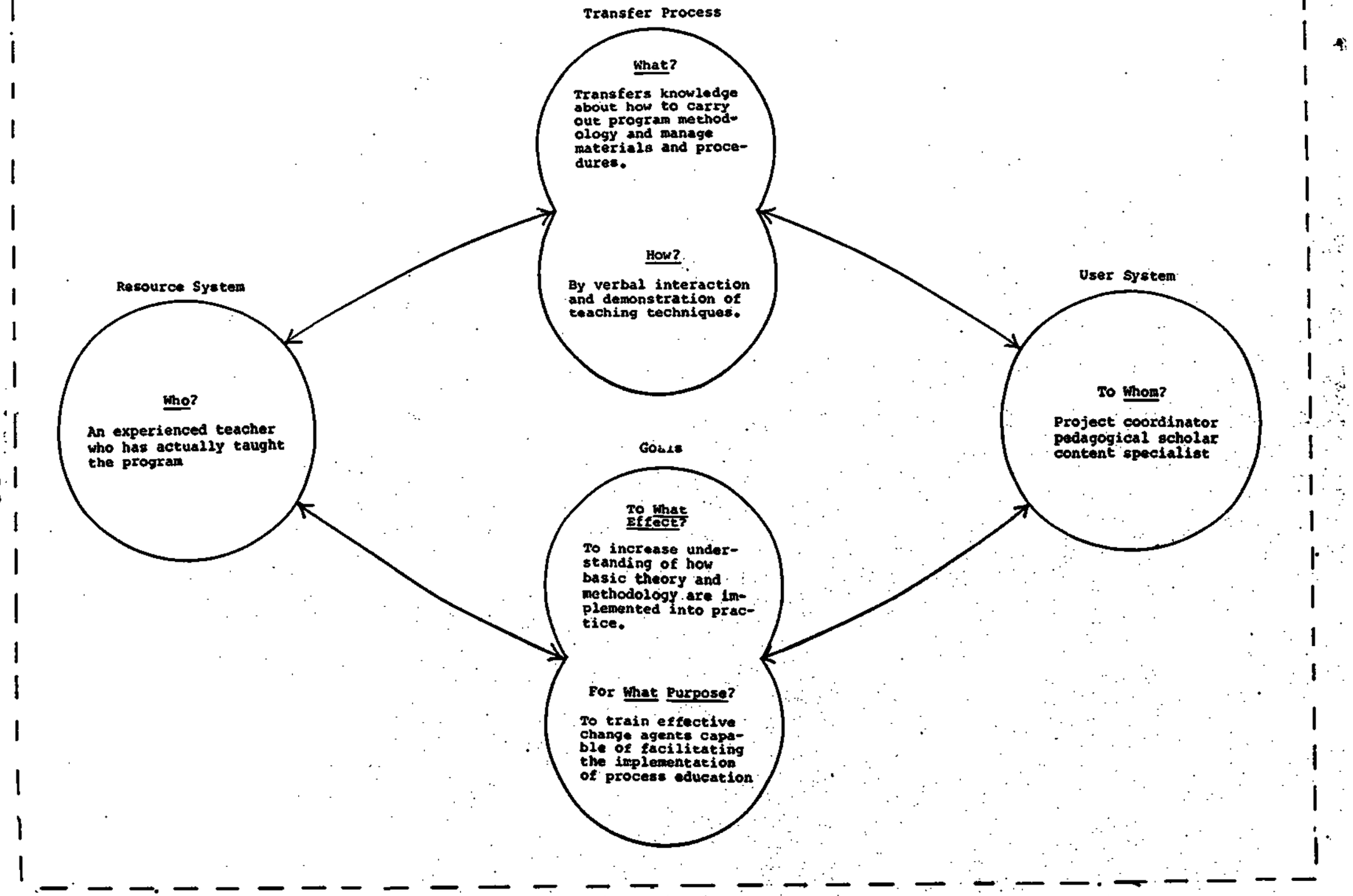
Long-Term Goal Sought by the Knowledge Transfer Process

Preservice teachers who go on to become full-time professional teachers who (1) are excited and committed to the practice of education via the process approach of MACOS (2) seek to implement MACOS or related process curricula and

methods into their own classroom teaching (3) will interact with other educators and individuals on the value of process education.

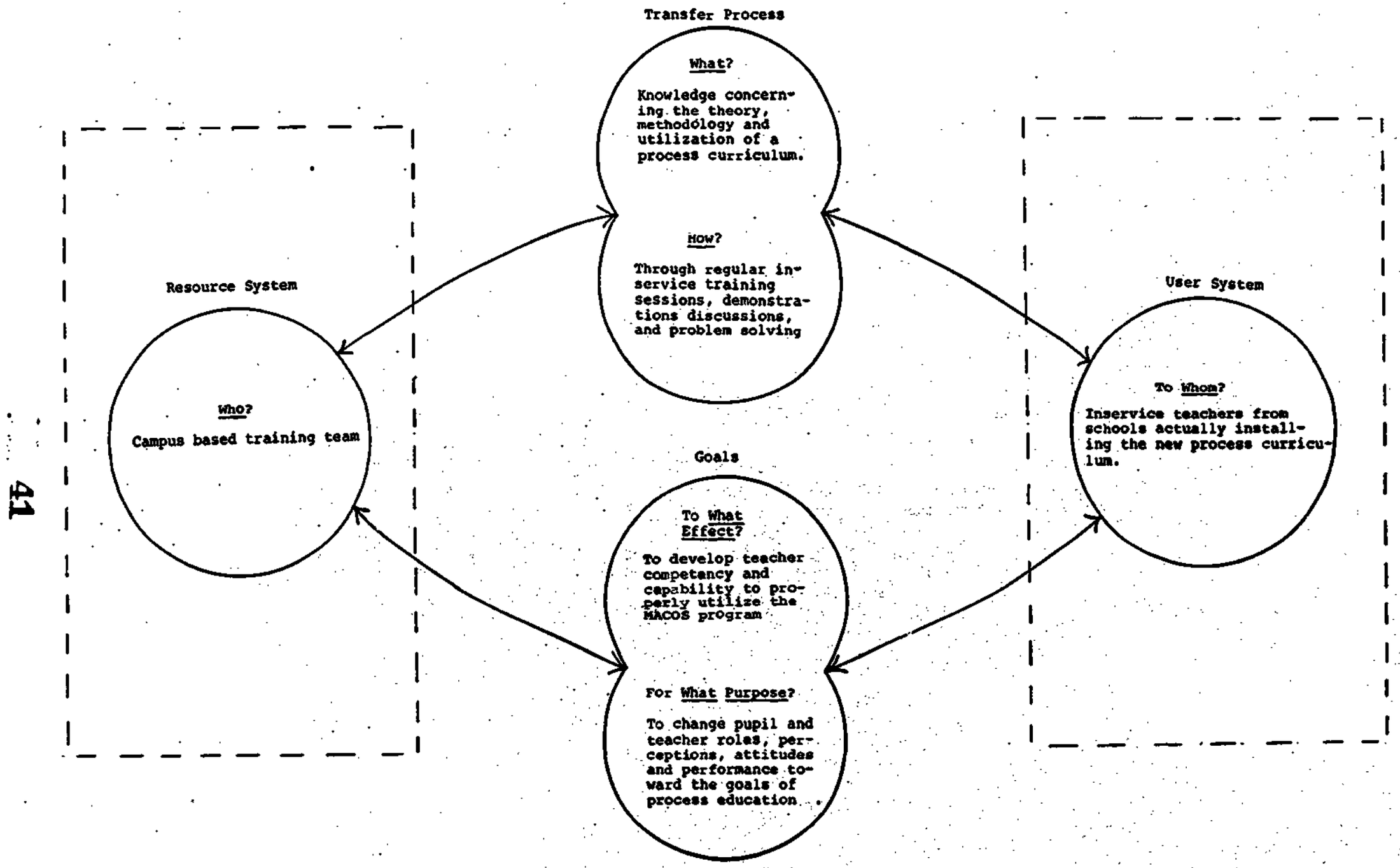
ACTIVITY III: EXAMPLE B

THE EXPERIENCED TEACHER IN THE PROJECT CORE STAFF AS ONE INTRA PROJECT STAFF RESOURCE



ACTIVITY III: EXAMPLE B

THE CAMPUS BASED TEAM AS A RESOURCE TO INSERVICE TEACHERS



HANDOUT 9

Activity IV: Problem

Using the detailed specification of relationships and linkages as well as the specific project goals and rationales do one of the following.

1. Develop a brief evaluation plan which clearly states what project effects you hope to assess during and following the project. Choose one or two effects which relate to specific project goals and perhaps to the specific linkage relationship you developed in Activity III.

2. List a number of procedures, instruments, techniques etc. which you could use to collect data about the specific outcome(s) you identified in item 1 above.

HANDOUT 10

Activity IV: Example A

Using the project conditions and requirements and the general and specific goals a series of instruments and assessment procedures were developed to provide information on the project. Much data was collected during the project year which provided feedback which was used to identify and correct potential problems, capitalize upon unexpected opportunities to further the project goals and generally keep the project on target. Instruments and data collection procedures were designed to measure specific aspects of the success of project design and goals.

Data were collected across each of the four samples involved to determine the (1) degree of implementation of the project strategy; (2) effectiveness of the strategy in achieving specified project goals; and (3) utility of the curriculum as a vehicle for effecting changes in attitudes and behavior. The samples involved included elementary school pupils, two groups of college students, who were preparing to become teachers, inservice teachers from public schools and their administrators. Twenty different instruments including tests, questionnaires, inventories, and attitude scales were developed or adapted for use with the various populations. In addition the project coordinator and staff reported on over 70 on-site visits to the campus sites.

Data was collected and analyzed relative to each of the following dimensions which were represented in the specific project goals, conditions and requirements.

I. Amount, Type, and Variety of Interaction Among Project Participants

   A. Interaction Among Inservice and Preservice Teachers

   B. Interaction Among Inservice Teachers and the Campus Team

   C. Interaction Among Participating Inservice Teachers and Other Members of the Local School Community

   D. Interaction Among Preservice Teachers and the Campus Team

   E. Interaction Among the Campus Team and Other Educators

II. Perceived Value of the Project Pre- and Inservice Education Programs Developed and Conducted by the Campus Team

III. Facilitation of Curriculum Installation Through Beneficial Participant Interaction Among All Samples in the Program

IV. Knowledge of Adult Samples Concerning Philosophy, Theory, and Design of Man: A Course of Study

A. Knowledge Exhibited by the Preservice Groups

B. Knowledge Exhibited by Inservice Teachers

C. Knowledge Exhibited by Public School Administrators

D. Knowledge Exhibited by the Campus Team

V. Perceived Value of the Curriculum and Project to the Agencies and Individuals Involved

VI. Degree of Continuation and Expansion of Man: A Course of Study Curriculum Installation by Local School Districts

VII. Degree of Continuation and Expansion of the Man: A Course of Study Curriculum at College Campus Schools

VIII. Degree of Institutionalization of College Preservice Programs (using Man: A Course of Study as a Vehicle for Teacher Education)

IX. Effects of Man: A Course of Study and the Campus Team Strategy on Teacher Classroom Behavior

X. Pupil Proficiency in the Content of Man: A Course of Study

XI. Changes in Pupil Classroom Attitudes and Behavior

ACTIVITY IV: EXAMPLE B

TYPES AND VARIETIES OF INSTRUMENTS
USED TO COLLECT DATA ON PROJECT GOALS

Instruments	Administered To	N
Administrator's Questionnaire, 1969-70 ERIE MACOS Network	administrators	7
Campus Team Biweekly Report Form Man: A Course of Study	campus team reports on inservice course	105 (21 for each of 5 teams)
Campus Team Final Report	campus team final reports on preservice and inservice classes	5
Campus Team Preservice Report Form	campus team reports on preservice classes	10
Core Staff Report Form	reports on campus visits by core staff and director	70
General Familiarity Test for the Man: A Course of Study Curriculum December 23, 1969 form	inservice teachers-NSF and non-NSF preservice students-fall	94 91
General Familiarities Inventory for the Man: A Course of Study Curriculum, April 30, 1970 form	preservice students (spring semester)	59
Inservice Education Questionnaire	inservice teachers-NSF	30
MACOS Pupil Test I - Man & Animals	elementary students	2322
MACOS Pupil Test II - What Makes Man Human?- The Netsilik Eskimos	elementary students	2192
Preservice Education Questionnaire	preservice students fall spring	87 122
Satellite School Lesson Reporting form - Man: A Course of Study	most of MACOS teachers for each of 65 lessons	varies with lesson
Semantic Differential for Attitude Assessment toward the Man: A Course of Study Curriculum - Man & Animals	inservice teachers and preservice students (fall semester)	185
Semantic Differential for Attitude Assessment toward the Man: A Course of Study Curriculum - Eskimo Units	preservice students (spring semester)	-

Activity IV: Example C

Sample copies of three instruments

Satellite School Lesson Reporting Form
Preservice Education Questionnaire
General Familiarities Inventory for the
Man: A Course of Study Curriculum

are available for your inspection.

Activity IV: Example E

The tables below show the results of some of the data collected relative to specific project goals. Of particular interest is data collected independently from the various groups involved in the project about some particular aspect of the project. Note for instance the degree of independent agreement among various groups about critical goals of the project.

INTERACTION AMONG PRESERVICE AND INSERVICE TEACHERS AS REPORTED BY TWO PRESERVICE SAMPLES

Interaction Reported	Amount of Interaction	
	Preservice I (n=87)	Preservice II (n=122)
Percent of preservice sample aware of opportunity for interaction with inservice teachers and their classrooms	100.0	91.8
Percent of preservice teachers visiting classrooms of inservice teachers	86.2	44.3
Percent of preservice teachers meeting with campus school teachers	49.4	50.6
Percent of preservice teachers meeting with non-campus school teachers	28.7	71.3
Mean number of visits by each preservice teacher to elementary classrooms	6.23	2.20
Mean number of visits by each preservice teacher to non-campus elementary classrooms	4.52	1.13

INTERACTION AMONG PRESERVICE AND INSERVICE TEACHERS AS REPORTED BY INSERVICE TEACHERS (n=30)

Interaction Reported	Amount of Interaction
Percent of inservice teachers visited in their classrooms by preservice teachers	47
Mean number of preservice individuals visiting each inservice teacher's classroom	1.43
Percent of inservice teachers visiting preservice college students classes at the campus sites	40

INTERACTION AMONG PRE- AND INSERVICE TEACHERS THROUGH STUDENT TEACHING AS REPORTED BY INSERVICE TEACHERS (n=30)

Interaction Reported	Percent
Teachers having student teachers during project year	77
Inservice teachers assisted in teaching MACOS by their student teachers	63
Student teachers assisting in teaching MACOS while also being trained in college MACOS program	13

INTERACTION AMONG INSERVICE TEACHERS AND THE CAMPUS TEAM IN ADDITION TO THE TWENTY REGULAR TRAINING SESSIONS AS REPORTED BY INSERVICE TEACHERS (N=30)

Interaction Reported	Amount of Interaction*
Meetings between inservice teachers and a member of the campus team in addition to regular inservice sessions	47
Visits by a member of the campus team to classrooms of inservice teachers during instruction of MACOS	27
Visits by inservice teachers to the classroom of a campus school teacher during instruction of MACOS	27
Inservice teacher participating in the preservice college courses of professors at local colleges	40

*Reported in percent of inservice teachers involved in the activity.

JUDGMENT OF PRESERVICE II SUBJECTS RELATIVE TO THE APPROPRIATENESS OR INAPPROPRIATENESS OF THE FOLLOWING STATEMENTS TO THE BASIC THEORY AND METHODOLOGY OF MACOS

(N = 59)

Stat #	Statement	Ideal Know. Resp.	Mean	S.D.	Skewness	Frequency of Response (%) ǂ N.R. (0)	V.I. (1)	I (2)	M.I. (3)	U (4)	M.A. (5)	A (6)	V.A. (7)
8	A skill emphasized by MACOS is formulation of generalizations based on observations	7	5.92	1.33	-4.66**	0	0	3	7	2	12	36	41
6	The range and variety of media and materials in the MACOS curriculum promotes optimal student motivation and learning	7	5.95	1.07	-3.38**	0	0	0	5	3	19	37	36
9	The range and variety of media and materials in the MACOS curriculum promote direct experience not accessable to the classroom	7	6.03	.89	-2.53*	0	0	0	2	2	22	41	34
11	A basic assumption of the MACOS curriculum is that the child learns when he can freely interact, exchange ideas and cooperate in problem solving	7	6.27	93	-6.30**	0	0	2	0	2	10	39	47
23	The teacher's role in the MACOS curriculum is to raise questions that promote students interest in the issues and topics of the curriculum	7	5.85	1.40	-7.13**	2	2	0	5	0	14	46	32
19	A critical pupil behavior in MACOS is the ability of children to apply generalizations to complex statements	7	5.20	1.51	-5.12**	3	0	2	8	5	29	41	12
32	A basic assumption of the MACOS curriculum is that instruction should be programed and students should be monitored	1	2.44	1.48	3.92**	0	29	36	17	8	3	5	2
35	A basic assumption of the MACOS curriculum is that the social interaction of children is helpful socially, but does not promote learning	1	2.37	1.36	5.17**	0	22	49	15	5	2	5	2
63	MACOS films have little or no narration because their use is basically motivational in nature	1	2.78	1.76	2.50**	2	25	27	20	3	12	7	3

ǂ Response Code: 0 = No response, 1 = Very inappropriate, 2 = Inappropriate, 3 = Moderately inappropriate, 4 = Uncertain, 5 = Moderately appropriate, 6 = Appropriate, 7 = Very appropriate

* Statictically significant skewness at .05 level

** Statistically significant skewness at .01 level

JUDGEMENT OF INSERVICE TEACHERS RELATIVE TO THE IMPORTANCE OF PARTICULAR STATEMENTS WHICH ARE SUPPORTIVE OR CONTRARY TO APPROPRIATE TEACHER-PUPIL ROLES WITHIN THE MACOS CURRICULUM (N=30)

tatement or uestion	Ideal or Knowledgeable Response	Observed Mean	S.D.	Skewness	Frequency of Response (Percent) ‡ N.R. (0)	D.N. (1)	P.N. (2)	U (3)	P.Y. (4)	D.Y. (5)
n teaching MACOS mphasis should be laced upon pupil ctivity and com- unication among upils	5	4.90	0.31	-5.95**	0	0	0	0	10	90
he teacher should se his knowledge nd skill to dir- ctly communicate o pupils the ajor concepts nd themes of ACOS	1-2	2.10	1.45	2.56**	3	37	40	3	0	17
he teacher should o very little dir- ctive teaching ut rather guide upil learning esulting from ex- erience with ilms, booklets, ole playing, dis- ussion and other lassroom activi- ies	4-5	4.63	0.96	-8.73**	3	0	0	0	20	77
s you have actu- lly taught MACOS ave you placed uch emphasis upon upil activity?	5	4.83	0.38	-3.99**	0	0	0	0	17	83
s you have actu- lly taught MACOS ave you placed uch emphasis pon pupil ctivity?	5	4.67	1.15	-7.65**	3	3	0	0	3	90

‡Response Code: No response=0, Definitely not=1, Probably not=2, Unsure=3, Probably yes=4, Definitely yes=5.

**Statistically significant skewness at the .01 level.

INDEPENDENT ASSESSMENT OF THE EFFECT OF THE MACOS CURRICULUM ON PUPIL BEHAVIOR BY FOUR SAMPLES OF ADULT OBSERVERS

Pupil Behavior Dimension	Mean* Ratings by Each Sample			
	Pres. I (N=87)	Pres. II (N=122)	Inservice (N=30)	Adminis. (N=7)
Elementary pupils learn much from MACOS	4.29	3.84	4.50	4.18
The MACOS curricula promotes much student-student interaction	4.56	4.19	4.57	5.00
The MACOS curriculum stimulates more and better pupil questions	4.60	4.19	4.67	4.86
MACOS helps children to better perceive their social and physical environment	4.36	4.01	4.63	4.71
Children apply MACOS process skills to other curriculum areas	4.32	4.00	4.20	--
MACOS promotes process skills more than typical elementary curricula	4.49	3.84	4.43	5.00

* Means reported in raw score units where: 1=definitely not, 2=probably not, 3=unsure, 4=probably yes, 5=definitely yes.

Perceived Value of MACOS and other
Process Curricula as Expressed by
Inservice Teachers and Their Administrators

Question	Inservice Mean* (N=30)	Administrative Mean* (N=7)
Should the MACOS curriculum be used for another year in your district?	4.47	5.00
Would you recommend the expansion of the MACOS curriculum within your district?	4.43	4.71
Would you recommend the use of other process curricula in your district?	4.47	5.00

*Means are reported in raw score units on a 1-5 scale where:
1 = definitely not, 2 = probably not, 3 = unsure,
4 = probably yes, 5 = definitely yes

PUPIL RATING OF TEACHER BEHAVIORS
IN MACOS LESSONS*
(N=2192)

Response Option	Statement	Frequency of Response (Percent)
1	We had lively discussion on most questions, but for many of them we did not reach a final answer.	23
2	Our teacher was very good at telling us most of the answers.	8
3	For most questions, we found answers in the booklets, films and through study projects	58
4	Each student found answers from reading and from taking notes when the teacher talked to the class.	10

* Pupils were asked to select the one response from among the four which best described how they typically sought and found answers to questions encountered in the use of MACOS.

RESULTS OF ADMINISTRATION OF PUPIL TESTS I AND II
TO SAMPLES OF ELEMENTARY SCHOOL STUDENTS USING MACOS IN ERIE PROJECT
AND NON-PROJECT SCHOOLS

'est	Number of Items	Sample	Sample Size	Expected Chance Mean	Observed Mean	Standard Deviation	Difference Between Observed and Chance Mean	p>	Generalizability Coefficient
ACOS Pupil 'est I	36	MACOS Pupils from ERIE Project Schools	1171	11.17	23.85	5.16	12.68	.05	0.77
		MACOS Pupils from ERIE Non-Project Schools	1151	11.17	22.00	5.56	10.83*	N.S.	0.79
IACOS Pupil 'est II	42	All MACOS Pupils from ERIE Project and Non-Project Schools	2192	10.83	27.45	6.20	16.62	.01	0.82

* Significance at .05 level requires a value of 10.90.

ASSESSMENT OF THE WORTH AND RELEVANCE OF
THE CAMPUS TEAM CONDUCTED PRESERVICE/INSERVICE PROGRAM
EXPRESSED IN MEANS* BY THREE PROJECT SAMPLES

Question	Sample		
Do you feel the involvement of a professor and campus school teacher in this MACOS project has:	Pres. I No.= 87	Pres. II No.= 122	Inservice No. = 30
a) Caused your (college) (inservice) class to be more relevant than its typical counterpart?	4.07	4.13	3.80
b) Caused your (college) (inservice) calss to be more interesting than its typical counterpart?	4.39	4.47	4.00
c) Provided the opportunity to learn more than in the typical (college) (inservice) class about recent developments in curriculum and instruction?	4.44	4.20	3.87
d) Provided you with more than the typical opportunity to interact with experienced elementary school teachers in your campus and/or local schools?	3.61	3.09	4.33
e) Caused your (college) (inservice) class to be more time-consuming than its typical counterpart?	2.30	2.16	3.00
f) Been sufficiently worthwhile to be contained in the future?	4.44	4.31	4.13

*Means reported in raw score units on a 1-5 scale where:
1 = definitely not, 2 = probably not, 3 = unsure,
4 = probably yes, 5 = definitely yes

Activity IV: Example F

SUMMARY OF RESULTS

Analysis of the data indicates that: (1) the project strategy was successfully implemented; (2) this produced a great amount of interaction between college professors, preservice students, experienced teachers and elementary school pupils; (3) the content of pre- and inservice education programs was judged as more interesting, appropriate and useful than conventional program by participants; (4) the proper installation and use of the MACOS curriculum was greatly aided by the collaboration among the various populations; (5) the adult populations developed both a good knowledge of the theory and instructional methodology central to MACOS and other process curricula; (6) all populations and agencies involved judged the project to be valuable; (7) staff and administrative personnel of the participating colleges and elementary schools have further expanded the project with their own monies; (8) all participating teacher colleges have institutionalized the project in their preservice education programs; (9) indirect measures indicate that most classroom teachers have become more dialectic and inquiry oriented; and (10) pupils have achieved a proficiency in certain goals for MACOS.

EVALUATION IS INTEGRAL TO PROJECT DESIGN, IMPLEMENTATION AND MONITORING

Assessment activities are central to all phases of project design, implementation, monitoring and summative evaluation. To plan and design a project one must have general goals which describe the broad parameters for the activity. Specific goals and rationales are needed to implement the project. Conditions and requirements which clearly and fully state the roles and responsibilities of the agencies and individuals involved in the project system are needed to insure that all parties understand project goals and their part in contributing to achievement of those goals.

Proper attention to the details of specifying project goals and the multiple linkage patterns among project participants early in the project is critical. Each of the six aspects of the Havelock model should be specified for each key user and resource agency or individual in the project system. It is seldom that agencies or individuals are simply a knowledge user or resource. Typically the members of the project system are interdependent upon one another for knowledge or information. For example, a classroom teacher using a new curriculum in her classroom is a user as are her pupils. The resources for the teacher and the pupil include the curriculum developers and the change agency installing the program. However, the teacher and pupils are also a knowledge resource to the change agent and the curriculum developer. The classroom use of the curriculum provides knowledge not otherwise available to the developer and change agent.

Project evaluation is an ongoing process which is intimately involved in all stages of activity. Evaluation activities serve at least four purposes.

First, early attempts to translate general goals into specific goals and rationales and to further translate these into conditions and requirements for prospective participants is a great aid to commencing project activity.

Second, given specific goals and rationales as well as the roles and responsibilities for all key members of the project system it is relatively simple to formulate the questions and assessment procedure which provide data on the degree to which specific goals, roles, and responsibilities are being achieved.

Third, having formulated the instruments and procedures for collecting such data it is possible and desirable to at once begin and maintain monitoring of the project activity to provide feedback. The feedback is needed to adapt earlier aspects of the project to unforseen situations, improve project design and strategy, prevent small problems from becoming big problems, and generally move project activity toward the stated goals.

Finally, the questions, assessment procedures, and data collected are extremely useful in a summative evaluation of the project activity. Collectively the information can tell what the project has achieved relative to its goals and how it might become more effective in future years.

The summative evaluation of overall project effectiveness is very easily accomplished if the necessary prerequisite activity is completed prior to and during project implementation. The bulk of project evaluation activity occurs prior to the final evaluative report.

FEEDBACK

1. How close to your expectations for this workshop have the day's activities been? (Rank according to scale)

Very close Not close at all

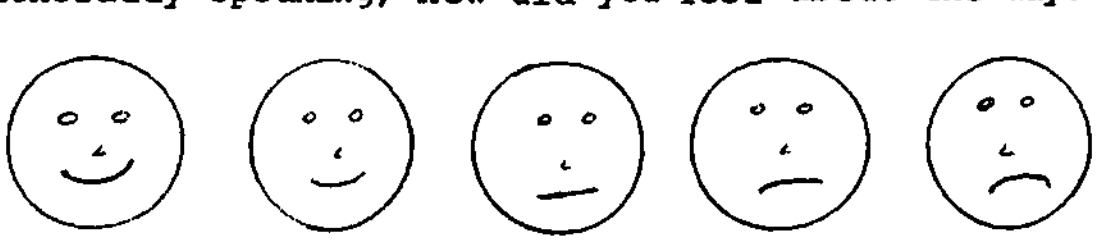
1 2 3 4 5

2. What is the likelihood of your implementing the project evaluation model, or some portion of the model, demonstrated today. (Rank according to scale)

Very likely Unlikely

1 2 3 4 5

3. Generally speaking, how did you feel about the day?



4. We would appreciate your comments on the presentations and any suggestions for its modification or improvement.